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Teaching Opportunities in 1953

By JOHN O. NIEDERHAUSER, HAZEL BROWN, AND MARGARET VESEY

THE imbalance in supply and demand was sharply felt by the Division of Appointments, Ohio State University, during 1953. The demand was the heaviest in the history of the office for elementary- and secondary-school teachers and for public-school and college administrators. The demand for college teachers was slightly higher than the low demand listed in 1951.

The College of Education graduated 539 students in 1953. Of this number, 270 desired to teach and were available for placement. Thirty-five per cent of the graduates were not available for teaching. Of these students, 79 in the College of Education either were granted the degree of Bachelor of Fine Arts, Bachelor of Music, or Bachelor of Occupational Therapy or were nursing-education or dental-hygiene graduates. Of the remaining 460 certificated teachers, 190 were not available for placement. Seventy-four were called into military service. Twenty-eight graduates accepted employment other than teaching. In addition, 26 women were unavailable because of marriage, 25 graduates desired a specific location, 14 entered graduate schools, and 22 listed various other reasons for not being interested in teaching.

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Table I lists the number of graduates of the College of Education for each of the past ten years (*see* Column 2), together with the number wanting to teach and the percentage placed in teaching positions (*see* Columns 4 and 5). The total number of graduates from the college continued to decrease—a trend which began in 1950. The total number of candidates available for teaching in 1953 was 25 less than in 1952. Of those available 98 per cent were able to secure teaching positions. This was an increase over 1952 of almost 2 per cent.

The number of beginning teachers placed was 265 in 1953; 283 in 1952.

TABLE I

PERCENTAGE OF GRADUATES OF THE COLLEGE OF EDUCATION AVAILABLE FOR PLACEMENT WHO HAVE SECURED TEACHING POSITIONS IN THE LAST TEN YEARS

YEAR OF GRADUATION	GRADUATES OF THE COLLEGE		PERSONS WISHING TO TEACH	
	Total Number*	Percentage Not Available	Number Available	Percentage Placed
(1)	(2)	(3)	(4)	(5)
1944	251	32	169	90
1945	306	12	269	97
1946	303	33	202	96
1947	469	44	260	98
1948	638	41	400	96
1949	840	37	517	85
1950	792	43	449	84
1951	738	43	377	95
1952	607	44	295	96
1953	539	41	270	98

*The graduates who complete their work during the fall quarter of any year are counted as graduates of the next year, for it is then that they are available for placement.

A summarization for 1952 and 1953 showing the difference in the number graduating, the number desiring to teach of those qualified to do so, and the number accepting positions, is made in the following table:

	1952	1953
Graduating	607	539
Degree of Bachelor of Fine Arts, Bachelor of Music, Bachelor of Occupational Therapy, Nursing Education, and Dental Hygiene	84	79
Certificated to teach	523	460
Not available	228	190
Desiring to teach	295	270
Accepting positions	283	265

The requests received by the Division of Appointments in 1953 from Ohio, from other states, and from foreign countries are classified in Table II. The total requests were 9,575, as compared with a total of 7,828 received in 1952. Requests for teachers were received from each of the 48 states, the District of Columbia, Alaska, Guam, Hawaii, Panama Canal Zone, American Samoa, the Philippines, Central and South America, the Near East, and several European countries, as well as from the Dependent School services in Europe and the Far East.

TABLE II

TOTAL REQUESTS RECEIVED BY THE DIVISION OF APPOINTMENTS FROM OHIO, OUT OF STATE, AND FOREIGN COUNTRIES

	Ohio	Out of State	Foreign	Total
(1)	(2)	(3)	(4)	(5)
Administration	164	189	17	370
Elementary	2,036	1,529	319	3,884
Secondary	3,031	1,208	70	4,309
College	121	838	53	1,012
Total	5,352	3,764	459	9,575

REQUESTS for secondary-school teachers increased almost 800 over the requests in 1952, and 1,100 over the requests in 1951. In fact, the requests this year were more numerous than in any other year during the history of this office. Table III gives an analysis of the 4,309 requests received for secondary-school teachers in 1953. The first column lists the teaching field for which the request was made, the second column lists the total number of calls for each subject as a major, and the third column lists those which required teaching one subject only. Column 4 lists the number of times requests were made which required the teaching of two or more subjects. Columns 5, 6, 7, and 8 indicate the minor fields requested most often with each major field.

English teachers were in greatest demand this year, with 490 requests. In 1952 requests for English teachers numbered 450, second to the demand for music teachers. In 1953 music teachers were requested 461 times, second to the demand for English teachers. Also, this year home-economics requests were fewer and were not in third place as has been the case for two years. Mathematics requests numbered 386 and were ranked in third place according to demand. There were 373 calls for home-economics teachers.

Other secondary-school fields, following in the order of number of calls received, were: industrial arts (356), men's physical education (332), science (308), business education (293), social studies (288), and women's physical education (269). In the science area the demand was greatest for general-science teachers. Physical-science calls were second in number; biology ranked next; chemistry stood fourth; and physics was last, with only 13 calls. The requests for fine-arts teachers more than doubled the average demand for the last eight years.

TABLE III

ANALYSIS OF HIGH-SCHOOL CALLS RECEIVED BY THE DIVISION OF APPOINTMENTS FOR THE YEAR 1953

SUBJECT OR TEACHING FIELD*	NUMBER OF CALLS IN 1953			NUMBER OF TIMES OTHER SPECIFIC SUBJECTS WERE CALLED FOR IN COMBINATION WITH THE SUBJECT CONSIDERED‡			
	Total	As a Single Subject	Combined with Other Subjects				
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Arts—							
Fine Arts (*FA*)	215	199	16	*En* 8	*Mu* 3	.....	.....
Industrial Arts (*IA*)	356	228	128	*PE* 40	*Ma* 26	*SS* 14	*Dr E* 11
Business Education (*BE*)	293	249	44	*En* 10	*SS* 9	*Ma* 7	*PE* 6
Distributive Education (*DE*)	6	5	1	*BE* 1	.....	.....	.....
Core	32	20	12	*Sc* 2	.....	.....	.....
Driver Education (*Dr E*)	20	6	14	*SS* 3	*Ma* 3	*PE* 3	*SE* 2
English (*Eng*)	490	148	342	*SS* 66	*Lang* 64	*Sp* 42	*PE* 23
Dramatics (*Dr*)	5	2	3	*Sp* 2	*En* 1	.....	.....
Speech (*Sp*)	52	0	52	*Dr* 23	*En* 20	*SS* 4	.....
Journalism (*Jo*)	9	6	3	*En* 3	.....	.....	.....
Home Economics (*HE*)	373	306	67	*En* 19	*Sc* 12	*PE* 12	*SS* 6
Languages (*Lang*)—							
French (*Fr*)	21	4	17	*S* 7	*La* 3	*En* 3	.....
German (*Ger*)	2	1	1	*En* 1	.....	.....	.....
Latin (*La*)	47	5	42	*En* 19	*SS* 7	*Fr* 6	*S* 4
Spanish (*S*)	55	2	53	*En* 26	*SS* 10	*La* 9	*Fr* 4
Total†	*125*	*12*	*113*	.....	.....	.....	.....
Library (*Li*)	56	47	9	*En* 4	.....	.....	.....
Mathematics (*Ma*)	386	150	236	*Sc* 111	*PE* 54	*En* 21	*SS* 18
Music (*Mu*)	461	350	111	*En* 18	*SS* 5	*FA* 4	*Sp* 4
Physical Education (*PE*)—							
Men	332	32	300	*Sc* 78	*SS* 65	*Ma* 55	*IA* 22
Women	269	182	87	*Sc* 20	*En* 20	*SS* 18	*Ma* 8

TABLE III [*Continued*]

Subject or Teaching Field*	Number of Calls in 1953			Number of Times Other Specific Subjects Were Called for in Combination with the Subject Considered‡			
	Total	As a Single Subject	Combined with Other Subjects				
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Science (*Sc*)—							
Biology (*Bi*)	50	9	41	*PE* 12	*GS* 11	*Ch* 11	*SS* 5
Chemistry (*Ch*)	27	7	20	*Phy* 5	*GS* 4	*Bi* 3	*Ma* 3
General Science (*GS*)	143	24	119	*Ma* 39	*PE* 15	*Phy* 14	*Ch* 13
Physical Science (*PS*)	75	20	55	*Ma* 30	*Bi* 8	*PE* 8	*GS* 4
Physics (*Phy*)	13	10	3	*Ma* 3			
Total†	*308*	*70*	*238*				
Social Studies (*SS*)	288	144	144	*En* 52	*PE* 32	*Ma* 11	*Sc* 9
Special Education (*SE*)	114	95	19	*Sp & HT* 7	*FA* 4		
Speech and Hearing Therapy (*Sp & HT*)	49	49	0				
Total	4,239	2,300					

* In the parentheses after each subject is given the abbreviation used in Columns 5–8.

† Totals, when the calls for the subgroups for languages and for sciences are added together, are set in italics and given in Column 2, but they are not included in the final total figure.

‡ Columns 5–8 show additional subjects listed on calls in Column 4. The totals of Columns 5–8 are not necessarily equivalent to the total in Column 4; the specific subjects in Columns 5–8 are the most frequent combinations.

TABLE IV

AVERAGE NUMBER OF HIGH-SCHOOL CALLS RECEIVED BY THE DIVISION OF APPOINTMENTS FOR THE EIGHT YEARS 1946 TO 1953

SUBJECT OR TEACHING FIELD*	AVERAGE NO. OF CALLS IN 1946–1953			NUMBER OF TIMES OTHER SPECIFIC SUBJECTS WERE CALLED FOR IN COMBINATION WITH THE SUBJECT CONSIDERED‡			
	Total	As a Single Subject	Combined with Other Subjects				
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Arts—							
Fine Arts (*FA*)	117	109	8	*Eng* 3	*Mu* 2	.....	.....
Industrial Arts (*IA*)	220	154	66	*PE* 24	*Ma* 12	*Sc* 10	*SS* 4
Business Education (*BE*)	218	186	32	*Eng* 9	*PE* 8	*SS* 4	*HE* 2
Distributive Education (*DE*)	3	3	0	.....	.....	.....	.....
Core	7	6	1	.....	.....	.....	.....
Driver Education (*Dr E*)	5	3	2	.....	.....	.....	.....
English (*Eng*)	349	137	212	*Lang* 47	*SS* 43	*Sp* 22	*PE* 10
Dramatics (*Dr*)	4	1	3	*Sp* 1	.....	.....	.....
Speech (*Sp*)	28	7	21	*Dr* 9	*Eng* 9	*SS* 1	.....
Journalism (*Jo*)	3	3	0	.....	.....	.....	.....
Home Economics (*HE*)	363	295	68	*Eng* 27	*Sc* 12	*PE* 8	*SS* 3
Languages (*Lang*)—							
French (*Fr*)	12	2	10	*Eng* 3	*S* 2	*La* 1	*SS* 1
German (*Ger*)	2	1	1	.....	.....	.....	.....
Latin (*La*)	39	8	31	*Eng* 18	*S* 3	*SS* 3	*Fr* 3
Spanish (*S*)	33	8	25	*Eng* 13	*La* 3	*Fr* 2	*SS* 2
Total†	*86*	*19*	*67*	.....	.....	.....	.....
Library (*Li*)	54	47	7	*Eng* 5	*La* 1	.....	.....
Mathematics (*Ma*)	229	109	120	*Sc* 64	*PE* 19	*Eng* 9	*SS* 3
Music (*Mu*)	404	358	46	*Eng* 23	*FA* 5	*SS* 2	*PE* 1
Physical Education (*PE*)—							
Men	240	10	230	*SS* 32	*Sc* 30	*Ma* 26	*IA* 15
Women	169	123	46	*Eng* 12	*SS* 8	*Sc* 7	*Ma* 1

TABLE IV [*Continued*]

Subject or Teaching Field*	Average No. of Calls in 1946–1953			Number of Times Other Specific Subjects Were Called for in Combination with the Subject Considered‡			
	Total	As a Single Subject	Combined with Other Subjects				
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Science (*Sc*)—							
Biology (*Bi*)	32	11	21	*GS* 6	*PS* 4	*PE* 4	*Ch* 1
Chemistry (*Ch*)	21	7	14	*Phy* 4	*Ma* 3	*Bi* 2	*GS* 1
General Science (*GS*)	96	35	61	*Ma* 23	*PE* 11	*Bi* 5	*Phy* 4
Physical Science (*PS*)	41	12	29	*Ma* 15	*PE* 4	*Bi* 3	*Phy* 2
Physics (*Phy*)	28	8	20	*Ma* 6	*Ch* 4	*Bi* 3	*PE* 3
Total†	*218*	*73*	*145*				
Social Studies (*SS*)	161	89	72	*Eng* 23	*PE* 19	*Ma* 5	*Lang* 2
Special Education (*SE*)	79	76	3	*Sp&HT* 1			
Speech and Hearing Therapy (*Sp & HT*)	18	18	0				
Total	2,975	1,826	1,149				

* In the parentheses after each subject is given the abbreviation used in Columns 5–8.

† Totals, when the calls for the subgroups for languages and for sciences are added together, are set in italics and given in Column 2, but they are not included in the final total figure.

‡ Columns 5–8 show additional subjects listed on calls in Column 4. The totals of Columns 5–8 are not necessarily equivalent to the total in Column 4; the specific subjects in Columns 5–8 are the most frequent combinations.

Special-education requests were greater in number this year. The requests for language teachers increased 44 per cent over the 1952 placement year. Spanish, especially in combination with English, was called for 55 times; Latin ranked second among the languages; French stood third; and German fourth. The need for library-science teachers was registered 56 times, which was nearly the same number listed in 1952. Thirty-seven requests were received for Negro teachers, all but six of them from outside Ohio.

In form, Table III and Table IV are similar. Table IV, however, presents the average number of secondary-school calls received for the eight-year period, 1946 to 1953. A comparison of Table III with Table IV shows definite increases in the number of requests in all fields except physics. This contradicts the belief that the demand for secondary-school teachers is about the same. It was apparent in 1953 that the need for secondary-school teachers has been on the increase. The demand for them is expected to reach a critical stage within the next ten years.

Table IV indicates that music and home economics are the two highest ranking secondary-school fields in terms of the average number of requests made during the eight-year period. Table IV shows also that some high-school fields are requested more often in combination with other subjects than as a single subject. For example, English is usually combined with a language or with social studies, speech, or physical education. Requests for languages are many times listed in combination with English. The different sciences are most often combined with each other or with mathematics.

Particular mention should be made of the increasing demand for core teachers. There were 32 such requests for the 1953 year (*see* Table III). Table IV lists the average number of requests for core teachers during the eight-year period as 7. There was no such word as "core" in our areas of teacher demand until 1950. In that year three such requests were listed. In 1951, the number of requests for core teachers doubled those of the previous year. Fourteen requests were registered in 1952. It could possibly be that within a period of five to ten years hence, the demand for core teachers may become large.

THE number of majors in each teaching field for the years 1952 and 1953, with the percentage of those placed who desired to teach, is shown in Table V. In contrasting the "percentage placed" (*see* Columns 4 and 7) for the two years, definite increases are noted for 1953. This has been true in fine arts, industrial arts, business education, elementary education, Spanish, biology, and social studies. Military service took the largest percentage of graduates in these fields: distributive education, industrial arts, sciences, social studies, speech, music, and mathematics. This year, more than in the past four years, graduates took positions in which they had an opportunity to teach in their major fields. Previously, many had taught in their minor areas or in the upper elementary grades—this was particularly true of social-studies majors. The percentages placed, listed in Column 7, would all have been 100 if there had not been difficulty in finding positions for Negro graduates. It can be said, however, that the 75 per cent of Negro graduates placed this year was a definite improvement over previous years.

Salaries for inexperienced secondary-school teachers ranged from $2,500 to approximately $3,700, with the median salary at $3,100. Experienced teachers were able to command much higher salaries.

THE supply of candidates for elementary-school teaching has remained approximately the same this past year as it was during the previous year. The College of Education graduated 217 elementary-education majors in 1953. Of this number, our records indicate that only 162 were actually available for teaching. All of these candidates were placed early in the employment season.

Evidence of the continuing high demand for elementary-school teachers is found in the fact that this division received 3,884 requests for elementary-school teachers during 1953, as compared with 2,375 such requests during the same period in 1952. Incidentally, the actual need for elementary-school teachers would seem to indicate that, had it been known that we had an available supply, the number of requests would probably have risen considerably higher than that reported. In other words, many prospective employers are not even bothering to list their requests for elementary-school teachers

TABLE V

THE NUMBER OF MAJORS IN EACH FIELD, THE NUMBER INTERESTED IN TEACHING, AND THE PERCENTAGES SECURING POSITIONS, FOR THE YEARS 1952 AND 1953

TEACHING FIELD	NUMBER OF MAJORS IN 1952*	TEACHING POSITIONS IN 1952		NUMBER OF MAJORS IN 1953*	TEACHING POSITIONS IN 1953	
		Number Desiring	Percentage Placed†		Number Desiring	Percentage Placed†
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Arts—						
Fine	21	8	88	15	8	100
Industrial	43	18	89	15	4	100
Business education	9	6	83	12	6	100
Distributive education	1	1	100	2	0	.....
Elementary education	180	143	99	214	164	100
English	29	13	92	22	10	90
Journalism	0	.....	.....	0	.....	.....
Speech	24	6	83	12	2	50
Speech and hearing therapy	11	4	100	5	1	100
Geography	1	0	.....	0	.....	.....
Home economics	1	1	100	3‡	0	.....
Languages—						
French	6	3	100	1	0	.....
German	4	2	100	0	.....	.....
Latin	1	1	100	0	.....	.....
Spanish	13	11	91	6	3	100
Mathematics	29	15	100	14	7	100
Music	30	19	94	39	18	94
Physical education—						
Men	34	17	100	34	14	100
Women	17	9	100	11	10	100
Psychology	4	1	0	6	0	.....
Science—						
Biology	23	8	88	16	7	86
Chemistry	7	3	100	4	2	100
General science	28	9	100	16	7	86
Physical science	5	2	100	4	2	100
Physics	5	1	100	0	.....	.....
Social studies	52	26	92	51	19	95

* Double majors are counted in each field.

† Based on the number desiring to teach.

‡ This number includes only graduates holding the degree B.S. in Education. In addition, 35 vocational home-economics graduates from the School of Home Economics of the College of Agriculture registered with the Division of Appointments. One hundred per cent of those available for teaching were able to secure positions.

with us, particularly if the need arises late in the employment season. Out-of-state requests accounted for 1,529 of the calls, as compared with 2,036 which originated within the state. For-

eign calls totaled 319. The calls for Negro teachers numbered 18, of which 7 came from Ohio schools.

A little relief was given to the shortage of elementary-school teachers by a few graduates of the liberal-arts colleges who had taken an intensive course of study in elementary education during the summer quarter. These candidates were given temporary certificates and were all placed before the summer quarter ended.

Salaries for beginning elementary-school candidates were somewhat higher this year. They ranged generally from $2,500 to $3,700, although several were able to command even higher starting salaries. The median salary for beginning elementary-school teachers this year was $3,100.

DURING 1953 the Division of Appointments received 370 calls for personnel to fill administrative positions. This was a considerable increase over the 220 requests received in 1952, and the 215 in 1951. The administrative vacancies reported in 1953 were as follows:

Administrative Positions	Number of Calls
College administrative officers	89
Superintendent or assistant superintendent	40
Other public-school administrative officers	102
Executive head	27
Secondary-school principal or supervisor	41
Laboratory-school principal	2
Elementary-school principal or supervisor	69
Total	370

As may be noted in this table, opportunities in public-school and college administration were good. Demands continued to be high for elementary-school principals, secondary-school principals, and executive heads in local school districts. The requests for superintendents of schools were more numerous than at any time since 1947. The increased demand for other public-school administrative officers was largely due to the reclassification of requests formerly tabulated under psychology and guidance in the high-school calls. Several of our registrants succeeded in securing top administrative positions in large school systems throughout the country. As has been true in the past several years, the possession of a doctoral degree frequently is an important factor in the administrative candidate's success in securing a desirable position. Public-school adminis-

trators secured positions through the Division of Appointments with salaries ranging from approximately $4,100 for beginning administrative officers to as high as $13,500 for city school superintendents.

THE Division of Appointments received 1,012 requests for college staff members in 1953 as compared with 1,396 such requests in 1952, and 953 requests in 1951. In addition to these calls, it also received 159 requests for Negro college instructors. The college training areas in highest demand were as follows:

Subject	Number of Calls	Subject	Number of Calls
Education	164	Commerce	62
Critic teaching	89	Home economics	55
Physical education	87	Chemistry	51
English	86	Mathematics	50

Salaries offered by colleges and universities ranged from approximately $3,200 for instructors with Masters' degrees to as high as $8,000 for deans and $12,500 for college presidents.

As indicated earlier in this report, this office received 9,575 calls during 1953. The table which follows indicates how this volume compares with that of other selected years in the past:

Year	Total Calls	Year	Total Calls
1953	9,575	1949	5,678
1952	7,828	1948	7,319
1951	6,877	1941	3,457
1950	5,196	1936	1,908

The Division of Appointments assisted 738 candidates to secure employment in the various types of teaching and administrative positions in 1953, as compared with 596 candidates in 1952, and 727 candidates in 1951. Credentials were sent to 8,453 prospective employers to help them evaluate candidates for their positions. A total of 3,093 interviews were held with students, faculty members, alumni, and employing officials. These interviews involved discussions of teaching opportunities, qualifications of candidates, salary trends, and other pertinent subjects.

Some Bases for Predicting Marks in Advanced Engineering Mathematics

By JOHN R. KINZER AND LYDIA GREENE KINZER

THE writers have followed the records of 1,244 students who took the first course in college mathematics (Math. 421) in 1946 through the mathematics courses which they subsequently took at Ohio State University. Two analyses of the records have been reported: those of the students who elected several mathematics courses in their collegiate sequence[1] and those who were inadequately prepared for the first course.[2] The third analysis, which is reported here, concerns the records of the engineering students for whom certain mathematics courses were requirements.

Many beginning students of engineering consider mathematics courses the most difficult branch of the engineering curriculum. The survival rate in advanced courses in mathematics seems to bear out this opinion. As these courses grow successively more difficult, the number of students who drop out grows correspondingly greater, only those with high standing in the lower courses going on to the more difficult ones.[3]

It has been found, moreover, that college courses which are offered as a substitute for high-school courses which were omitted have not succeeded in furnishing the student with as good a mathematical background as the high-school courses.[4] This failure may be attributable to the caliber of the student who is forced to take in college, courses which he should have had in high school. Again, it may be due to the circumstance that the courses are taken three or four years later in the student's preparation. Mathematical thinking is apparently a type of reasoning which must be acquired early in life if it is to function habitually in situations that demand its use.

The urgent necessity, then, of making every effort to enable students to succeed in the early basic courses is obvious, since

[1] Kinzer, John R., and Kinzer, Lydia Greene, "Predicting Grades in Advanced College Mathematics," *Journal of Applied Psychology*, XXXVII (June, 1953), pp. 182–84.

[2] Kinzer, John R., and Kinzer, Lydia Greene, "Non-Credit Algebra as Preparation for Later Mathematics Courses," EDUCATIONAL RESEARCH BULLETIN, XXXII (March 11, 1953), pp. 57–59.

[3] *See* Footnote 1.

[4] *See* Footnote 2.

mathematics for the engineering student is a tool subject which is functional from the very beginning of the curriculum.

The investigation reported here was undertaken to provide information which might lead to a better understanding of the needs of engineering students and might furnish a basis for predicting their success in advanced mathematics courses. It is a study of the marks of engineering students taking advanced mathematics courses dealt with as four separate subsamples because of the nature of the prerequisites of the courses. All the students whose records are reported in this study were among those who took the first course in college mathematics in 1946.

THE descriptions of the courses in advanced engineering mathematics with their prerequisites are taken from the University catalogue as follows:

421. College Algebra. Five credit hours.

. . . Exponents and radicals, graphs, theory of quadratic equations, determinants of third and fourth orders, ratio, proportion, variation, logarithms, arithmetic progressions, geometric progressions, compound interest and annuities, permutations, combinations, binomial theorem, probability, partial fractions.

422. Trigonometry. Five credit hours. . . . Prerequisite, Mathematics 421.

Trigonometric functions and their graphs, functions of sum and difference of angles, equations and identities, formulas for solution of triangles, calculations using logarithmic tables. Complex numbers and their representation in a plane. Demoivre's theorem. Elements of spherical trigonometry.

423. Analytic Geometry. Five credit hours. . . . Prerequisite, Mathematics 422.

Cartesian and polar co-ordinates in the plane, equations of line, circle, parabola, ellipse, hyperbola, simpler facts about general equations of the second degree. Elements of solid analytic geometry, including direction cosines, equations of planes, lines, spheres, paraboloids, ellipsoids, and hyperboloids in simplest form.

441. Calculus. Five credit hours. . . . Prerequisite, Mathematics 423.

Differentiation of algebraic forms, with applications; successive differentiation; differentiation of transcendental functions; parametric equations, differentials; curvature; theorem of mean values; indeterminate forms.

442. Calculus. Five credit hours. . . . Prerequisite, Mathematics 441.

Integration of standard elementary forms, and integration by various devices; definite integrals; application to geometry and physics.

443. Calculus. Five credit hours. . . . Prerequisite, Mathematics 442.

Numerical series and power series; differential equations; hyperbolic functions; partial differentiation; multiple integrals, and applications.

602. Advanced Calculus for Engineers. Five credit hours. . . . Prerequisite, Mathematics 443.

This course is required in the third year for students majoring in Mechanical and Aeronautical Engineering. It includes numerical solution of equations, line, surface and volume integrals, Fourier series, vector notation, ordinary differential equations, particularly linear equations with constant coefficients, elementary partial differential equations, complex variables.

608. Advanced Engineering Mathematics I. Three credit hours. . . . Prerequisite, Mathematics 443.

Ordinary differential equations with constant coefficients with applications. Determinants. Numerical solution of algebraic equations.

609. Advanced Engineering Mathematics II. Three credit hours. . . . Prerequisite, Mathematics 608.

Fourier series, Bessel functions, graphical and numerical methods of solving differential equations, dimensional analysis.

610. Advanced Engineering Mathematics III. Three credit hours. . . . Prerequisite, Mathematics 609.

Vector analysis, complex numbers, elements of operational calculus.

THE predictions are based on prerequisite elementary mathematics courses and the Ohio State Psychological Examination (OSPE). Coefficients of correlation, means, and standard deviations for predicting marks in Mathematics 602, 608, 609, and 610 are presented in the successive sections of Table I. The regression equations and coefficients of multiple correlation are presented in Table II.

For predicting marks in Advanced Calculus for Engineers (Mathematics 602) none of the coefficients in the regression equation is significantly different from zero (10-per cent level). For predicting marks in Advanced Engineering Mathematics I (Mathematics 608) the regression coefficients for trigonometry (Mathematics 422), Calculus 442 (Mathematics

TABLE I

COEFFICIENTS OF CORRELATION, MEANS, AND STANDARD DEVIATIONS USED FOR PREDICTING THE MARKS OF ENGINEERS IN ADVANCED MATHEMATICS COURSES

	Coefficients of Correlation							Mean	Standard Deviation
	OSPE	Mathematics Courses							
		421	422	423	441	442	443		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	Advanced Calculus for Engineers [Math. 602 (y_1)]—45 Students								
OSPE (x_1) . . .	.....	....	....	....	....	....	....	65.2	27.9
Math. 421 (x_2)	.08	....	....	....	....	....	....	2.7	0.9
Math. 422 (x_3)	.11	.56	....	....	....	....	....	2.7	0.8
Math. 423 (x_4)	.24	.44	.27	....	....	....	....	2.4	0.8
Math. 441 (x_5)	.39	.43	.24	.48	....	....	....	2.6	0.8
Math. 442 (x_6)	.41	.09	.09	.37	.46	....	....	2.4	1.0
Math. 443 (x_7)	.10	.33	.36	.43	.43	.49	....	2.3	1.0
Math. 602 (y_1)	.35	.40	.11	.39	.49	.43	.36	1.7	1.1
	Advanced Engineering Math. I [Math. 608 (y_2)]—81 Students								
OSPE (x_1) . . .	.....	....	....	....	....	....	....	71.2	27.6
Math. 421 (x_2)	.22	....	....	....	....	....	....	3.0	1.0
Math. 422 (x_3)	.31	.53	....	....	....	....	....	3.1	0.8
Math. 423 (x_4)	.35	.54	.58	....	....	....	....	2.8	0.9
Math. 441 (x_5)	.20	.47	.50	.51	....	....	....	2.6	1.0
Math. 442 (x_6)	.24	.54	.54	.67	.60	....	....	2.7	1.0
Math. 443 (x_7)	.18	.40	.48	.47	.52	.60	....	2.5	1.0
Math. 608 (y_2)	.17	.34	.49	.47	.41	.62	.53	2.2	1.0
	Advanced Engineering Math. II [Math. 609 (y_3)]—70 Students								
OSPE (x_1) . . .	.....	....	....	....	.. .	....	....	73.8	26.6
Math. 421 (x_2)	.13	....	....	....	....	....	....	3.0	1.0
Math. 422 (x_3)	.19	.49	....	....	....	....	....	3.2	0.8
Math. 423 (x_4)	.26	.49	.52	....	....	....	....	2.8	0.8
Math. 441 (x_5)	.13	.44	.52	.53	....	....	....	2.6	1.0
Math. 442 (x_6)	.20	.52	.51	.66	.62	....	....	2.8	1.0
Math. 443 (x_7)	.06	.38	.48	.43	.57	.63	....	2.5	1.1
Math. 609 (y_3)	−.03	.23	.37	.42	.45	.51	.59	1.9	1.1
	Advanced Engineering Math. III [Math. 610 (y_4)]—49 Students								
OSPE (x_1) . . .	.....	....	....	....	....	....	....	78.6	22.5
Math. 421 (x_2)	.05	....	....	....	....	....	....	3.1	1.1
Math. 422 (x_3)	.31	.45	....	....	....	....	....	3.3	0.8
Math. 423 (x_4)	.23	.52	.50	....	....	....	....	3.0	0.8
Math. 441 (x_5)	.22	.59	.55	.55	....	....	....	2.6	1.0
Math. 442 (x_6)	.17	.57	.42	.66	.65	....	....	3.0	1.0
Math. 443 (x_7)	−.01	.45	.50	.45	.63	.60	....	2.7	1.1
Math. 610 (y_4)	.18	.17	.34	.50	.48	.43	.51	2.2	1.1

442), and Calculus 443 (Mathematics 443) are significantly different from zero (1–per cent level). Only Calculus 443 (Mathematics 443) has a coefficient significantly different from zero (1–per cent level) for predicting marks in Advanced

TABLE II

REGRESSION COEFFICIENTS AND COEFFICIENTS OF MULTIPLE CORRELATION

MATHEMATICS COURSES	NUMBER OF STUDENTS	OSPE (x_1)	MATHEMATICS COURSES						CONSTANT	COEFFICIENT OF MULTIPLE CORRELATION
			421 (x_2)	422 (x_3)	423 (x_4)	441 (x_5)	442 (x_6)	443 (x_7)		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
602 (y_1)	45	.0069	.45	—.30	.06	.18	.22	.12	—.58	.63†
608 (y_2)	81	—.0007	—.84	.24†	.05	—.04	.43†	.21†	.01	.89†
609 (y_3)	70	—.0061	—.15	.07	.24	.08	.20	.41†	.14	.65†
610 (y_4)	49	.0035	—.30*	—.04	.48†	.26	—.01	.32*	.07	.65†

* Significantly different from zero (10-per cent level).
† Significantly different from zero (1-per cent level).

Engineering Mathematics II (Mathematics 609). For predicting marks in Advanced Engineering Mathematics III (Mathematics 610) the coefficients for algebra (Mathematics 421), (10–per cent level), Analytic Geometry (Mathematics 423), (1-per cent level), and Calculus 443 (Mathematics 443), (10–per cent level) are significantly different from zero. The highest coefficient of multiple correlation for any one of the four courses was .89 for Advanced Engineering Mathematics I (Mathematics 608).

It appears that only the better students as judged by scores on the Ohio State Psychological Examination go into engineering curriculums, and that only the best of those continue through advanced mathematics courses. This conclusion is borne out by the fact that the lowest average mark in any of the prerequisites of the advanced mathematics courses is 2.5 (C+) in Mathematics 443. The average score on the Ohio State Psychological Examination for the individuals who took Advanced Calculus for Engineers (Mathematics 602) is the 65.2 percentile, whereas the average for those who took Advanced Engineering Mathematics III is the 78.6 percentile.

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THE Fund for the Advancement of Education is establishing a national fellowship program for public high-school teachers under which approximately three hundred awards will be made. Recipients will devote a full year away from the classroom to activities which will extend their liberal education and improve their teaching abilities. Every high-school teacher under fifty years of age with at least three years of teaching experience is eligible to apply.

The responsibility for designing the program rests primarily on the candidate. A two-year pilot fellowship program has shown that many able and imaginative teachers will be given an opportunity to reassess their specialized fields and make themselves and their teachings more stimulating to students. Since the program is designed primarily to broaden the individual, it is not to include those types of specialized activities in which the teacher has traditionally engaged during the summer months, such as taking courses for professional credit.

Nominations for awards will be submitted by local committees. Detailed instructions and application forms are being distributed to all superintendents. Quotas for nominations are based upon the population served by the school districts.

Where Are We Headed?

By ARTHUR W. FOSHAY

In this issue of the Educational Research Bulletin, special attention has been given to problems of manpower. Niederhauser, Brown, and Vesey offer a sobering account of the deficiency in teaching manpower in Ohio in 1953, Kinzer and Kinzer report a study of the quality of engineering students, and Eckelberry continues his discussion of the conclusions of the National Manpower Council's Conference on the Utilization of Scientific and Professional Manpower.

These three articles inevitably raise the question: where are we headed? Are we "headed" at all?

The Kinzers' article suggests the rigid, uncompromising standards that are applied to students of engineering. All students, without exception, must strain through the mathematics knothole. Those responsible for the training of engineers obviously consider such requirements absolutely essential. There is, of course, a national shortage of engineers. No one, however, this writer least of all, suggests that those responsible for the preparation of engineers open the door a little wider by lowering the standards somewhat. Bridges have collapsed and buildings have crumbled because of inadequate engineering. Such disasters are to be avoided at all costs—including much greater cost for qualified engineers.

How different it is in education! Year after year, the doleful figures that reflect the teacher shortage are reported. These figures can't convey the tragic facts of the shortage: amateurs in classrooms, preoccupied teachers; administrators saying "we'll take 'em if the body's warm"; children left half-articulate and half-literate by book-bound ignoramuses who do a best that isn't good enough; public-spirited citizens who settle for poorer and poorer teaching, finally forgetting what really good teaching is like. Since 1940, the gap between the best and poorest teaching in the schools has widened to a point that has rendered professional discussion virtually impossible between the best and poorest teachers.

In general terms, four solutions to this distressing problem are conceivable. First, we could abandon standards intended to keep amateurs and the ill-educated out of the classrooms. This has been done to the extent that roughly 25 per cent of

the million United States teachers now are unacceptable if one applies rigid standards. Second, we could go the way of engineering colleges, and accept for training only those students who could actually grasp the complexities of modern educational thought and practice. This we are not permitted to do. If we did, many schools would be closed for lack of teachers.

Third, we could "cut back" our notion of what good teaching is, as the National Manpower Council's conference suggests. We could adopt a 1954 version of the Lancastrian plan, introducing a hierarchy of teachers into the schools, with "master" teachers and "assistant" teachers. Such a plan makes sense as an ideal only if one accepts a limited notion of the nature of education. It is an expedient, lacking vision. However, it has the desirable feature of indicating the heavy weight of non-teaching, non-educational duties that many a teacher must now bear. It might eventually be better in some ways than our existing scheme, which tends to place the best-prepared teachers in the wealthiest school districts—big cities and wealthy suburbs—and to deny them to the great majority of the nation's children.

The fourth possibility is that we wait for the times to settle down—for economic forces and the human desire for betterment to complete their interaction. This we do inevitably, but it isn't enough.

There is one other possibility. We can (and some of us do) accept as a personal responsibility the task of keeping the flame alive. We must do a better job than we ever have of reminding the public that there is a difference between good teaching and poor teaching. We must learn how to be candid about the shortcomings of the schools, especially those related to the manpower problem.

Moreover, we must seek time and funds for the in-service improvement of the teaching force we have. In those school systems where as little as two per cent of the operating cost has regularly been devoted to curriculum and in-service purposes, the returns per dollar spent have been tremendous.

Some educators, facing this situation, are acting out of desperation. They try one after another of these approaches, and believe that when classes are manned they have solved the manpower problem. These are expedients, not solutions. For the sake of a sound public education, we have to do better than any of them.

EDITORIAL COMMENT

Teaching Is More than Instruction

LAST month we reported verbatim the principal conclusions regarding teacher manpower reached by the recent Conference on the Utilization of Scientific and Professional Manpower. This conference was held at Columbia University under the auspices of the National Manpower Council. We promised to comment on these conclusions in this month's BULLETIN.[1]

The conclusions of the conference may be summarized as follows. The lack of qualified teachers is particularly crucial at the present time since it means a shortage in the future supply of qualified personnel in other professions. The teacher-shortage problem may be attacked either by increasing the number of qualified teachers or by using more effectively the ones we have. Nearly all professional educators agree that the first of these two methods should be used; they disagree vigorously as to the feasibility and desirability of the second. One way of making better use of teachers' time is to assign to subprofessional personnel "routine clerical tasks, such as keeping attendance records, and . . . certain disciplinary responsibilities, such as supervising study halls and lunchrooms." Other ways are to make "more ambitious use" of student assistants and "more extensive use of films and television." "Teacher teams composed of master teachers and professional assistants might make it possible for the same number of teachers to handle a greater number of students and even improve the quality of instruction." A clearinghouse for exchange of experiences on utilizing teachers ought to be substituted. A more serious and vigorous attack on the whole problem than has yet been made is needed.

WITH the finding regarding the crucial importance of the teacher shortage there can be no quarrel; it has been evident to educators for a long time. The fact that those who deal with the broader manpower problem have become concerned about the teacher shortage is significant and encouraging.

[1] "Using Teacher Manpower," EDUCATIONAL RESEARCH BULLETIN, XXXII (December 9, 1953), pp. 245–46.

The conclusions as to the need for more effective teacher recruitment are likewise acceptable.

Not so the statement regarding educators' judgments concerning the desirability and feasibility of using teachers more effectively. No doubt educators differ as to the amount of improvement in teacher utilization that is possible, but the conference almost certainly exaggerated these differences. It is highly unlikely that any considerable number of educators "hold that teachers are now utilized as effectively as possible and that *no* improvements are either feasible or desirable" [italics added].

More important are the recommendations of ways in which teachers are to be better utilized. Greater use of films and television is desirable, but it would be an error to suppose that if they are used for x hours a week the teacher will have x hours a week for work other than teaching his classes. The problems and duties of teachers are not so simple as that. Teachers certainly ought to be relieved of routine clerical tasks such as keeping records, making out statistical reports, and running a duplicator. But to have subprofessional personnel assume disciplinary responsibilities such as supervising study halls and lunchrooms would be a different matter. To assume that they should take over these duties is to misunderstand the nature of the teacher's work.

The teacher's job is not merely to teach arithmetic or geography in the classroom; it is to promote the development of his pupils into the best possible persons and citizens. He should be not merely an instructor but an educator. Some of his most important educational opportunities occur on the playground, in the lunchroom, and in the study hall. A word of encouragement or correction to a pupil at the time an incident occurs on the playground may be more important than hours of formal instruction or conference. Supervising study is one of the most important functions of the teacher. Taking advantage of the educational opportunities offered outside the classroom calls for just as high a degree of professional judgment and skill as is demanded by formal instruction. To suppose that such extra-classroom responsibilities should be left to subprofessional personnel is to be misled by a false analogy between industrial mass production and the educational process.

[*Continued on page 28*]

READINGS

Books to Read

JELINEK, VLADIMIR, translator. *The Analytical Didactic of Comenius.* Chicago: University of Chicago Press, 1953. viii+239 pp.

Mr. Jelinek has translated from the Latin the first English edition of Comenius' *Analytical Didactic,* with modifications from the second Czech edition of his *Collected Works.* The translation is accompanied by a critical study of Comenius' thought and a history of the larger text from which the *Didactic* is taken, in addition to an informative analysis of the Halle Manuscripts. These manuscripts enter only incidentally into Mr. Jelinek's text, but they are of first-rate importance to students of Comenian thought and educational history, for they comprise Parts III-VII of the "General Consultation about the Improvement of Human Affairs." Unknown to scholars since the seventeenth century, they were discovered at Halle in 1935. As of 1950, only two had been translated from the Latin, and these into Czech. When completely available to scholars, the Halle Manuscripts should provide an adequate basis for assessing the full intellectual stature of Comenius. Mr. Jelinek has rendered a commendable service in publicizing the existence and present status of these documents as well as in making widely accessible the second comprehensive *Didactic* of Comenius.

Enthusiasm for Bohemia's most outstanding educator leads the translator to an exaggeration when he suggests that the ideas of Comenius "gradually revolutionized Western modes of instruction" (page 13). Tragically, Comenius was more a manifestation of a struggling early modern realism than he was a cause of subsequent educational reform. Yet this criticism is trifling when the over-all work is considered. Here is a well-written book, constituting a happy addition to the literature in English on educational history. The author reveals profound scholarship, a splendid grasp of Comenian studies, and a sensitive awareness of the Czech educator's originality and greatness. The University of Chicago Press has published one more fine volume.

LLOYD P. WILLIAMS

WANDT, EDWIN, AND OSTREICHER, LEONARD M. "Variability in Observed Classroom Behaviors of Junior High School Teachers and Classes." New York: College of the City of New York, 1953. v+31 pp. (Publication 16, Office of Research and Evaluation, Division of Teacher Education).

Although not an extensive study, this investigation does supply additional evidence to raise further questions about the common practice of administrators and supervisors of judging the effectiveness of a teacher by a single, or an occasional, visit to his classroom.

During a four-month period, Wandt and Ostreicher made 84 independent observations of five teachers working with two seventh-grade groups of children in a New York City junior high school. To check the social-emotional climate in these classes, they designed an instrument with fourteen

scales—six related to class behavior and eight to teacher behavior. Assigning a value of 1 through 9 for each of these scales, they treated the combined ratings statistically.

The authors conclude: first, that social-emotional climate in the classroom of the observed teachers varied widely from occasion to occasion; second, that the climate varied systematically with the two classes; and third, that initial observations were unreliable indexes of the typical climate.

Effective use is made of tables in presenting the analysis of data, and the rating scales employed in the study are included in the appendix.

PAUL KLOHR

ORLEANS, JACOB, *et al.* "Employment of Teacher Education Graduates of the Municipal Colleges of New York City." New York: Office of Research and Evaluation, Division of Teacher Education, College of the City of New York, 1952. vi+38 pp.

This is a report of a follow-up study of teacher-education graduates of the municipal colleges in New York City: Brooklyn College, City College, Hunter College, and Queens College. The origin of the study lay in the realization that "in these days of teacher shortages it is incumbent on teacher-education institutions to plan intelligently the recruiting of teacher-education students" (page 1). The Municipal Colleges of New York City have the problem of planning the extent of their teacher-education enrollments in line with the need for teachers in New York State, and especially in New York City. One of the major purposes of this study was to gather data that might serve to answer the question: "How many teacher-education students must the four Municipal Colleges of New York City graduate each year in each license area in order to make available the complement of teachers that it is expected that these colleges would furnish the New York City public schools in subsequent years?" (page 1).

The data in this study were compiled from questionnaires which were sent to all the 1945–1949 teacher-education graduates of the Municipal Colleges of New York City. The returns numbered 3,370, or 71.6 per cent of the total. The findings are of especial value to the education departments of the four municipal colleges of New York City since they provide information about the professional careers of their graduates and give estimates of attrition between college graduation and employment. For other than teacher-education personnel in these four municipal colleges, the data have less significance. The report would be valuable reading for those who train teachers as a stimulus for conducting similar follow-up studies, and as a warning of the dire need for planning recruitment of teacher-education students toward a future teacher shortage.

MARGARET VESEY

NATIONAL SOCIETY OF COLLEGE TEACHERS OF EDUCATION, COMMITTEE ON EDUCATIONAL PSYCHOLOGY. *Educational Psychology in Teacher Education.* Ann Arbor, Michigan: National Society of College Teachers, 1953. viii+99 pp. (Monograph No. 3).

The National Society of College Teachers of Education in 1947 appointed several committees for the purpose of determining the content or

learning experiences necessary for the training of beginning teachers. The Committee on Educational Psychology, with somewhat changing membership over the years, has already made several reports—primarily through the pages of the *Journal of Educational Psychology*. The present monograph represents the final work of the committee.

The co-chairmen of this committee were W. W. Cook and W. C. Trow. Other members who participated in writing chapters were W. R. Baller, G. M. Blair, W. F. Bruce, F. S. Freeman, H. N. Rivlin, D. Snygg, and D. A. Worcester.

The first chapter discusses the "Objectives of Educational Psychology in the Education of Teachers." It represents a logical presentation of five objectives and their implications; many teachers will find these useful as a general guide in evaluating their own programs. The next three chapters discuss, respectively, the content, the organization, and the methods of instruction in the usual required course in educational psychology. In these chapters various studies are reported, historical trends are noted, and representative programs are described. Teachers of this particular course will probably be interested in comparing their own program with these findings.

Chapter V represents a marked shift in orientation. Whereas the preceding chapters deal solely with the usual required course, this one approaches the problem of integrating psychological instruction into the whole professional educational program; that is, no separate course in educational psychology. While the quotations and arguments promote this view, it seems in contrast to the organization of the rest of the report. In brief, it seems like a minority report, with the whole commitee having failed to come to grips with a current controversy in professional curriculum-building. The final chapter summarizes several studies on the present training of teachers of educational psychology and points out some of the problems that will have to be met in obtaining more adequately prepared teacher-trainers in this area.

The whole report makes good use of previous studies and research; most of the chapters have extensive bibliographies. However, some gaps occur—for instance, S. L. Pressey, who has pioneered as many innovations and has done as much research as anyone on the teaching of educational psychology, is not mentioned once.

F. P. ROBINSON

LAUWERYS, J. A. *History Textbooks and International Understanding*. 1953. 84 pp.

HILL, C. P. *Suggestions on the Teaching of History*. 1953. 117 pp.

A Handbook of Suggestions on the Teaching of Geography. 1951. 103 pp. New York: Columbia University Press ("Towards World Understanding," Nos. IX, X, XI, published by Unesco).

Since 1950, Unesco has sponsored summer conferences for the discussion of the teaching of the social sciences. Authorities from various countries have participated. These three books are the product of these conferences.

The three authors stress the importance of promoting international understanding. Nevertheless, they are agreed that the teaching of history and geography should never be subordinated to propaganda, even propaganda in behalf of better international relations. This is not mere lip service to the

ideal of objectivity. They present approaches and methods which aim at broadening the student, stimulating critical thinking, and training in making sound judgments.

Teachers will find these books highly useful. Courses for various age groups are outlined. Topics for discussion, projects, and various types of teaching aids are suggested. The two books which deal with history give careful consideration to the merits of national history versus world history. The authors believe that national history, when properly presented against a world background by teachers of balanced judgment, can contribute to better international understanding. Each of the volumes contains helpful bibliographies.

Unesco is performing a most useful service in publishing these books. Hopes for greater understanding among nations rest on an educational program which helps free students from national prejudices and provincialisms. As these writers make clear, the finest type of national loyalty is consistent with the understanding of other peoples.

PAUL A. VARG

HOWARD, A.V., editor. *Chambers's Dictionary of Scientists.* New York: E. P. Dutton and Company, Inc., 1951. xi+250 pp.

This book should be useful to those who need a quick survey or introduction to science. It is a compilation of the principal points of biographical interest in the lives of over 1,300 scientists who have shaped the course of science from the Chaldees to the present day. The entries are arranged alphabetically. Some 70 illustrations are included. An especially valuable feature of the book is an extensive index of scientific topics which allows the reader to trace those associated with a given subject. Used in this way it is a valuable outline of scientific discovery. End-papers provide a list of Nobel laureates in chemistry, physics, and medicine. A valuable addition would have been a reference or references to sources of information about each scientist, so that the interested reader would have a point of attack on the literature.

The correct selection of the high lights of the careers of so many scientists in such widely scattered fields is a difficult if not impossible task. The reader should accept with caution the particular selections made, especially in the case of living scientists.

WILLIAM M. MACNEVIN

MCBURNEY, JAMES H., AND WRAGE, ERNEST J. *The Art of Good Speech.* New York: Prentice-Hall, Inc., 1953. viii+584 pp.

Speech as a label for a group of academic courses or a single "beginning course" has divergent meanings. *The Art of Good Speech* is a textbook for a beginning course. Such books in conservative treatments elaborate upon Aristotle's *Rhetoric* in the language and illustrations of our day. An alternative in contemporary textbooks dissects the processes of speaking and adds details and experimental verification as the material becomes available. Although this reviewer prefers the latter approach, he finds here a workmanlike and more than ordinarily complete version of the conventional treatment. For example, tests of evidence, often withheld for the advanced student, are enumerated and amplified. Again, of the Aristotelian *logos*, *pathos*, and *ethos*, only the

first two are usually treated: the logical import of the speech and the "motivations" that aid and abet in prompting the listeners to attend, believe, and act. McBurney and Wrage may share with others some uncertainty about synonyms for Aristotle's *ethos*, for they write idealistically upon the topic *the speaker as a person* (character, reputation, and so on), and add the cautious footnote, "This may be taken either as an interpretation or adaptation of the Aristotelian concept of ethos" (page 488).

Some repetition of rhetorical principles occurs in this book, with separate treatments of listening and speaking. Possibly rhetoric may alternatively apply to the speaker or the listener, and, when either is brought into focus and treated fully, little or no material remains that is peculiar to the other. In similar vein separate treatments of *methods* of *inquiry*, of *reporting*, of *advocacy*, and of *evocation* are repetitions, although the extra pages may be a small price to pay for the advantages that accrue from the several views of the speaker's objectives and responsibilities.

The Art of Good Speech is replete with anecdotes and applications of principles of rhetoric, with much of the illustrative material selected from the *New Yorker*, *Saturday Review of Literature*, and American public addresses. The subtleness of the illustrations, the range of the vocabulary, and the extended treatment of elementary rhetoric suggest that for these authors *college level* has a qualitative connotation and does not refer merely to chronological age.

The study and understanding of this textbook should foster an appreciation among college students of the responsibilities that attend public speaking, and yield knowledge about how to fulfill the obligations.

JOHN W. BLACK

TIPTON, JAMES H. *Community in Crisis: the Elimination of Segregation from a Public School System.* New York: Teachers College, Columbia University, 1953. x+ 180 pp.

Community in Crisis is the well-told story of community conflicts in a Midwestern industrial city. It describes and analyzes the incidents and social processes, as well as the democratic community growth, which eventuated when school strikes were instigated by white high-school students to enforce their demand that Negroes be withdrawn from their school.

In lightning-like fashion the controversy and the campaign spread to include every interest group and every citizen in Central City. At first it seemed to those who resisted segregation (including the mayor, the school superintendent, the school principal, the editor of the Central City Daily News, and so on) that the cause of equality was lost.

Through careful planning, patience, and willingness to accept and act upon outside advice such as that of the Bureau of Intercultural Education, the climate of opinion slowly shifted, then gained momentum. Finally, after approximately two years of forging ahead two steps and slipping back one, those leading the fight against segregation were able not only to devise a plan but to have it adopted, thus ending in large measure the inequalities Negro children experienced in the public schools.

The book will be of value not only to those interested specifically in the area of intercultural education but to those who are students of school-

community relations in general. For this kind of critical situation points up and offers, under highly emotionalized conditions, a challenge to the schools to meet problems of school and community relations in an effective manner.

FLORENCE GREENHOE ROBBINS

HOLMAN, MARY V. *How It Feels to Be a Teacher.* New York: Teachers College, Columbia University, 1950. xvi+207 pp.

The child, the parent, the school-board member—in fact, almost anyone—can describe the paragon of perfection a teacher should be. The author speaks of the teacher as a "master builder." She gives no blueprint for her to follow in assuming her various rôles. She does, however, set forth a variety of illustrations from her wealth of experiences which help the interested reader sense "how it feels to be a teacher." "Feel" is the keynote of the total account of teaching experiences. What these experiences "mean" to the individual teacher are a matter of personal integrative introspection and a growing concept of self.

Chapters II, III, and IV deal with the teacher as a little girl, a teenager, and a college student. They provoke a thoughtful estimate of the importance of these years in the making of a teacher. Chapters V and VI are devoted to making a case for the importance of the teacher-parent-child interrelations, obligations, and satisfactions.

In Chapters VII and VIII, concerning professional and community relationships, "how it feels to be a teacher" is interpreted to a great extent by bringing understanding to the feelings, viewpoints, and responsibilities of the "other" people involved in professional and community relationships. Thumbnail sketches of teacher-community problems are cited from experiences of teachers in thirty-two states. "Looking into the Future" is the final chapter. ". . . the answer for the future is in herself" (page 192)—so is the value of this book.

MARY JANE LOOMIS

1 1 1

Teaching Is More than Instruction

[*Continued from page 22*]

It is possible, of course, that in the present emergency we may have to assign some educational tasks to persons who are not adequately prepared. This should be regarded as an expedient rather than a policy.

Let us by all means study ways in which we can use better the abilities of teachers. Let us exchange experiences in this area. But let us avoid the error of defining teachers' essential responsibilities merely in terms of classroom instruction. Such a definition would mean a long step backward. Teaching is more—a great deal more—than instruction.

R. H. E.